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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/468,377	12/20/1999	YURIJ ANDRIJ BARANSKY	Y0999-558	3573

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EXAMINER

NALVEN, ANDREW L

ART UNIT

PAPER NUMBER

2134

DATE MAILED: 09/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/468,377

Applicant(s)

BARANSKY ET AL.

Examiner

Andrew Nalven

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12/20/99.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-17 are pending.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 5, 12, 13, 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thomlinson et al US Patent No. 6,389,535 in view of Shi et al US Patent No. 5,875,296. Thomlinson teaches a system for cryptographic protection of core data secrets.
4. With regards to claims 1, 12, and 15, Thomlinson discloses a first key known as a master key (column 9, lines 20-29) that is used to encrypt a second key known as an item key (column 9 lines 20-29). When the user wishes to access data, the first key (Thomlinson's master key) is used to decrypt the second key (column 10, lines 11-16) in order to access the data. Thomlinson teaches the use of asymmetric public key cryptography in which keys are kept private to the content provider (column 3, lines 55-57). Further, Thomlinson teaches an encryption method that utilizes a user-supplied password and entropy to encrypt keys (column 9, lines 54-56). Thomlinson lacks a reference to the storing of the encrypted second key on a client machine. Shi

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discloses a distributed file system web server that performs user authentication with cookies. Shi discloses a key that is stored on a client machine as a cookie (column 8, lines 61-63). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to utilize Thomlinson's described public key cryptography system and allow the storage of a cookie containing a cookie on a client machine. Using the public key system would make it unnecessary to continually change symmetric keys (column 3, lines 49-50); would provide a method of verifying senders (column 4, lines 22-26), and would make the private key known only to the content provider. With regards to storing the second key on a client machine, storing a key in the form of a cookie would make it unnecessary to have to enter a username/password combination each time a login is attempted (Shi, column 9, lines 10-13). The cookie containing the key could be passed to the server upon each access (column 9, lines 3-4). Further, it would have been obvious to one of ordinary skill in the art to use Thomlinson's encryption method that utilized a password and entropy on the second key because if a password change was desired it would provide a simple method: only the second key would need to be re-encrypted (column 10, lines 17-23).

5. With regards to claims 5, 13 and 16, Thomlinson and Shi disclose encryption methods as described above. Thomlinson teaches a second key termed an item key that is encrypted using an algorithm that requires a user-supplied password with an optional addition of a one-time entropy from the user application (column 9, lines 51-57 and lines 20-29). Further, Thomlinson discloses that accessing the data involves decryption that requires a user provided password as input (column 10, lines 7-8). At

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the time the invention was made, it would have been obvious to a person of ordinary skill in the art to apply this encryption method to the second key for reasons aforementioned. Further, it would have been obvious to a person of ordinary skill in the art to require a password to be provided in order to decrypt the data to help prevent an unauthorized user from accessing data by fraudulently using an authorized client machine.

6. Claims 2 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thomlinson et al US Patent No. 6,389,535 in view of Shi et al US Patent No. 5,875,296 as applied to claims 1 and 5 above, and further in view of Danneels US Patent No. 6,571,339. Thomlinson and Shi, as described above, lack a reference to the transmitting of the identity of the client machine for use in authenticating and controlling access to data. Danneels discloses the use of a processor identification number for authentication in which a computer provides its unique processor identification number across a network as a part of the authentication procedure (column 3, lines 56-60). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to utilize Danneel's unique processor identification method because it would help provide a secure method of authentication that would prevent content from being distributed to unauthorized individuals (column 5, lines 34-39).

7. Claims 3 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thomlinson et al US Patent No. 6,389,535 in view of Shi et al US Patent No. 5,875,296 as applied to claims 1 and 5 above, and further in view of Buck et al US Patent No. 6,078,866. Thomlinson and Shi, as described above, lack a reference to a one-time

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password being a unique user identifier that is transferred out of band. Buck discloses a system where new users create an account and are emailed a user password (column 6, lines 52-56). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to utilize Buck's method of emailing passwords because it would permit the prompt distribution of a password and allow a user to quickly begin accessing a content provider (column 7, lines 33-35).

8. Claims 4 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thomlinson et al US Patent No. 6,389,535 in view of Shi et al US Patent No. 5,875,296 as applied to claims 1 and 5 above, and further in view of IBM Technical Disclosure NN9503245 (March 1, 1995). Thomlinson and Shi, as described above, lack a reference to a session key. The aforementioned IBM Technical Disclosure describes a session key, K_a , created using password substitution, a permanent key, and a random nonce (Page 1, paragraph 2). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to utilize session keys because the use of session keys helps prevent key exposure (Page 3, paragraph 1).

9. Claims 9-11, 14, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jablon US Patent No. 6,226,383 in view of Thomlinson et al US Patent No. 6,389,535. Jablon describes cryptographic methods for remote authentication. With regards to claims 9, 14, and 17, Jablon discloses two systems that exchange the keys g^a and g^b . The client machine provides an identifier to the content provider (column 11, lines 19-22). G , A , and B are randomly generated numbers and G

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is known to both systems (column 4, lines 55-67 and column 5, lines 1-7). B is generated and known only to one system and A is generated and known only to the other system. The value g^{a^b} is calculated in order to find a shared key K (column 5, lines 5-7). Jablon then teaches a modified version of the aforementioned key exchange where one of the exponents, termed C, is based upon a password (column 7, lines 16-17). In this modified version, the client proves knowledge of the key g^{a^b} to the server in order to prove that the client had knowledge of the password (column 7, lines 26-28). Jablon lacks a reference to the decryption of g^b using the password. Thomlinson discloses decrypting a key using a password (column 10, lines 6-8). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use passwords to decrypt keys to help prevent an unauthorized user from accessing data by fraudulently using an authorized client machine.

10. With regards to claim 10, Jablon discloses that the client sends an identifier such as a name, ID, or address to the content provider. Jablon lacks a reference to requiring that a specific user only gain access through a specific client machine. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to require a match between a user name or ID with that of an address to provide a greater level of security by ensuring specific machines are only used by a trusted entity.

11. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jablon US Patent No. 6,226,383 in view of Thomlinson et al US Patent No. 6,389,535 as applied to claim 9 above, and further in view of Schneier Applied Cryptography. Jablon and Thomlinson as described above, lack a reference to a MAC authentication

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procedure. Schneier describes the one-way hash function termed a MAC that is used to verify authenticity (Page 455, Section 18.14). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to utilize Schneier's MAC authentication on g^{a^b} to authenticate the server to the client because it provides a verification method that is reliant on having the same key. Both client and server generate the same key during the authentication procedure so the MAC authentication would be an easy way to check authenticity without needing security since it is a one-way function (Page 455, Section 18.14).

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

13. Any inquiry regarding this communication from the examiner should be directed to Andrew Nalven at (703) 305-8407 during the hours of 7:15 AM – 4:45 PM Monday through Thursday. The examiner can also be reached on alternate Fridays.

In the event that attempts to reach the examiner are unsuccessful, the examiner's supervisor, Gregory Morse can be reached on (703) 308 – 4789.

Any response to this action should be mailed to:

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Or faxed to:

(703) 746 – 7239 (for formal communications intended for entry)

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Or:

(703) 746 – 7240 (for informal or draft communications, please label
"PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal
Drive, Arlington, VA 22202, Fourth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or
proceeding should be directed to the receptionist whose telephone number is (703) 305-
3900.

Matthew P. Smithers
MATTHEW SMITHERS
PRIMARY EXAMINER
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